

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION**

RAVIN CROSSBOWS, LLC,	)	CASE NO. 5:23-cv-598
	)	
	)	
PLAINTIFF,	)	JUDGE SARA LIOI
	)	
vs.	)	
	)	
HUNTER’S MANUFACTURING	)	<b>MEMORANDUM OPINION</b>
COMPANY, INC. d/b/a TENPOINT	)	<b>AND ORDER</b>
CROSSBOW TECHNOLOGIES,	)	
	)	
DEFENDANT.	)	

Plaintiff Ravin Crossbows, LLC. (“Ravin”) filed the above-captioned action in the District of Nevada on December 17, 2021. (Doc. No. 1 (Complaint).) In its initial complaint, Ravin alleged that the defendant, Hunter’s Manufacturing Company, Inc., d/b/a TenPoint Crossbow Technologies (“TenPoint”), infringed six patents. (*Id.*) The case was transferred to the Northern District of Ohio on March 21, 2023. (Doc. No. 74 (Transfer Order).) On September 1, 2023, Ravin agreed to voluntarily reduce its asserted infringement claims. (Doc. No. 107 (Reduction of Claims).) Ravin now claims TenPoint infringed four patents: United States Patent Nos. 9,494,379 (the “379 patent”), 9,878,936 (the “936 patent”), 10,254,073 (the “073 patent”), and 11,085,728 (the “728 patent”). (*Id.*)

A court's first task in determining whether an accused device or process infringes a patent is to construe the claims to ascertain their proper scope. *Lockheed Martin Corp. v. Space Systems/Loral, Inc.*, 324 F.3d 1308, 1318 (Fed. Cir. 2003). Accordingly, the parties came before the Court on November 21, 2023, for a hearing on the proper construction to be accorded the claims in the subject patents, commonly referred to as a *Markman* hearing. *See Markman v.*

*Westview Instruments*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996). The parties also submitted pre-hearing briefs on a variety of issues relating to claim construction. Upon consideration of the parties' briefs and the arguments made at the *Markman* hearing, the Court construes the disputed terms as set forth herein.

## **I. BACKGROUND**

For the purposes of this litigation, Ravin is the holder of United States Patent Nos. '379, '936, '073, and '728. (*See* Doc. No. 108 (Plaintiff's Claim Construction Brief), at 5 n.2.<sup>1</sup>) The patents share a common specification, and each disclose crossbows with a pulley system whereby two cams, or pulleys, are attached to the bow limbs and to the drawstring such that the cams rotate as the drawstring is pulled into firing position. (*Id.* at 6.) This rotation tightens a set of power cables, which are attached on one end to the cams and to the center rail or riser on the other end. The tightening power cables bend the bow limbs to generate and store the power necessary to fire an arrow. (*Id.*)

Of particular importance to this litigation is what Ravin describes as its signature "helicoil" technology. The helicoil is a cam design that winds the powers cables into helical journals, or grooves, ascending or descending from the cam. (*Id.*) Other bows commonly use uniplanar journals, which wind the power cables into a one-dimensional circular groove. (*Id.*) A cam with uniplanar journals is constrained in its rotation, as the cables are not able to wind past the point where they connect to the cam. (*Id.*) As a result, uniplanar journals are not able to rotate greater than 360 degrees and, in many cases, rotate substantially less than 360 degrees. (*See id.*) The greater rotation enabled by helical journals pulls the power cables tighter, bending the bow further.

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<sup>1</sup> All page numbers refer to the page identification number generated by the Court's electronic docketing system.

(*Id.*) A larger bend in the bow limbs creates and stores more power with which to fire the arrow.

(*Id.*)

## II. LEGAL STANDARD

A court's first task in determining whether an accused device or process infringes a patent is to construe the claims to ascertain their proper scope. *Space Systems/Loral, Inc.*, 324 F.3d at 1318. Claim construction is a matter of law to be decided exclusively by the Court. *Markman v. Westview Instruments*, 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996). “[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004). Claim terms are “generally given their ordinary and customary meaning.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “The ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective date of the patent application.” *Id.* at 1313. Absent an express intent to the contrary, a patentee is presumed to have intended the ordinary meaning of a claim term. *York Prods. v. Cent. Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1572 (Fed. Cir. 1996).

In determining the proper construction of a claim, a court begins with the intrinsic evidence of record, consisting of the claim language, the patent specification, and the prosecution history (if in evidence). *Phillips*, 415 F.3d at 1313. “Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.” *Vitronics*, 90 F.3d at 1582. “The appropriate starting point . . . is always with the language of the asserted claim itself.” *Comark*

*Comm'n, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998).

The claims also “must be read in view of the specification, of which they are a part.” *Phillips*, 415 F.3d at 1315 (quoting *Markman v. Westview Instruments*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996)). The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics*, 90 F.3d at 1582. By expressly defining terms in the specification, an inventor may “choose . . . to be his or her own lexicographer,” thereby limiting the meaning of the disputed term to the definition provided in the specification. *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999). Although claims are interpreted in light of the specification, this “does not mean that everything expressed in the specification must be read into all the claims.” *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 957 (Fed. Cir. 1983). For instance, limitations from a preferred embodiment described in the specification generally should not be read into the claim language. *See Comark*, 156 F.3d at 1187. However, it is a fundamental rule that “claims must be construed so as to be consistent with the specification.” *Phillips*, 415 F.3d at 1316 (quoting *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed. Cir. 2003)). Therefore, if the specification reveals an intentional disclaimer or disavowal of claim scope, the claims must be read consistent with that limitation. *Id.*

In most circumstances, analysis of the intrinsic evidence alone will resolve claim construction disputes. *See Vitronics*, 90 F.3d at 1583. Extrinsic evidence may be considered, as it “‘can shed light on the relevant art,’ but is less significant than the intrinsic record in determining the ‘legally operative meaning of disputed claim language.’” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting *Vanderlande Indus. Nederland BV v. ITC*, 366

F.3d 1311, 1318 (Fed. Cir. 2004)). Courts should not rely on extrinsic evidence in claim construction to contradict the meaning of claims discernable from examination of the claims, the written description, and the prosecution history. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583). However, the court may appropriately consult “trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in the pertinent technical field.” *Id.* Extrinsic evidence “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Phillips*, 415 F.3d at 1317 (quoting *Markman*, 52 F.3d at 979). All extrinsic evidence should be evaluated in light of the intrinsic evidence. *Id.* at 1319.

In construing claims, the Court determines whether or not a term requires construction. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). The Court is not required to accept a construction of a term, even if the parties have stipulated to it, but instead may arrive at its own construction of claim terms, which may differ from the constructions proposed by the parties. *Pfizer, Inc. v. Teva Pharms., USA, Inc.*, 429 F.3d 1364, 1376 (Fed. Cir. 2005).

### **III. CONSTRUCTION OF DISPUTED TERMS AND PHRASES**

The parties in this case have submitted twenty-four terms for construction. (Doc. No. 126 (Joint Claim Construction Statement), at 3.) The parties have each proposed a construction of three of the twenty-four terms. (*See* Doc. No. 126-1 (Parties’ Proposed Constructions), at 2–6.) The parties have also agreed on the construction of three terms. (Doc. No. 126, at 2.) TenPoint has provided a proposed construction for the remaining eighteen terms, while Ravin claims that no construction is required. (Doc. No. 126-1, at 6–21.)

### **A. Agreed Terms**

The parties have agreed to the construction of three terms. (*Id.*) The agreed constructions are as follows:

1. “extending in a direction perpendicular to the respective planes of rotation[:]” extends perpendicularly with respect to a plane of rotation
2. “power cable take-up journal” and “power cable journal(s)[:]” a structure that accepts at least one power cable
3. “cross over[:]” extend from one side to the other.

(*Id.*) Finding that each of these proposed constructions is supported by the claims, the Court adopts the parties’ agreed constructions.

### **B. “Mounted to”**

The parties first disagree on the construction of the term “mounted to” as it appears in claims 1 and 11 of Patents ‘379, ‘936, and ‘073, and claim 10 of Patent ‘728. (Doc. No. 126-1, at 2.) Ravin’s proposed construction is “mounted to allow only rotation about a fixed axis.” (*Id.*) TenPoint proposes “connected to, either directly or indirectly.” (*Id.*) “A fundamental rule of claims construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document.” *Merck*, 347 F.3d at 1371. Here, neither party’s proposed construction captures the meaning of the term as presented in the patent.

Ravin’s construction of the phrase “mounted to” is circular and unhelpful. Ravin’s construction sets out by defining “mounted to” using the words “mounted to.” (Doc. No. 108, at 11.) The use of such circular definitions is generally disfavored. *See, e.g., Univ. of Fla. Rsch. Found. v. Motorola Mobility, LLC*, 3 F. Supp. 3d 1374, 1377 (S.D. Fla. 2014) (citing *ACTV, Inc.*

*v. Walt Disney Co.*, 346 F.3d 1082, 1090 (Fed. Cir. 2003) (finding the use of “wireless” to define “wireless” was “circular and unhelpful” and “constitute[d] improper claim construction.”)); *Sunstone Info. Def., Inc. v. F5, Inc.*, No. 21-cv-09529, 2023 WL 2746762, at \*6–8 (N.D. Cal. Mar. 30, 2023) (rejecting a construction of “presentation information” that included the term “presentation information” in its definition because it was circular). This type of “circular claim construction will not assist the jury as factfinder in understanding this claim term and determining whether the allegedly infringing product includes” the crossbows at issue. *Lecat’s Ventriloscope v. MT Tool & Mfg.*, 283 F. Supp. 3d 702, 712 (N.D. Ill. 2018) (citing *Harris Corp. v. IXYS Corp.*, 114 F.3d 1149, 1152 (Fed. Cir. 1997)). Replacing “mounted to” with “mounted to allow only rotation around a fixed axis” does not assist the jury in determining the meaning of the claim term. Accordingly, Ravin’s proposed construction must fail.

TenPoint’s proposed construction also fails. TenPoint constructs “mounted to” as “connected to, either directly or indirectly.” (Doc. No. 117 (Defendant’s Response), at 14.) This construction is also unhelpful and potentially confusing to the jury. Substituting “connected to” for “mounted to” does little more than substitute synonyms in a manner that would do nothing to aid the jury in understanding the term. *See Terves LLC v. Yueyang Aerospace New Materials Co.*, No. 1:19-cv-1611, 2021 WL 1172332, at \*4 (N.D. Ohio Mar. 29, 2021) (rejecting proposed constructions of the term “galvanically active” as unhelpful because the term “is not so far out of the realm of common experience that a juror could not understand its meaning”). “The criterion [for claim construction] is whether the explanation aids the court and the jury in understanding the term as it is used in the claimed invention.” *Funai Elec. Co. v. Daewoo Elecs. Corp.*, 616 F.3d 1357, 1366–67 (Fed. Cir. 2010).

Defining “mounted to” to include any direct or indirect connection makes it difficult to discern the relationship between the various parts of the crossbow. Ravin offers a simple example that highlights the problem. Under Tenpoint’s proposed construction, the trigger of the crossbow could be said to be indirectly connected to the limbs of the bow because the trigger is connected to the center rail, which is itself connected to the mounts, which are connected to the limbs. A construction that includes any indirect connection, without some other limiting principle, makes it impossible to determine how various parts of the bow fit together and does not aid the jury in determining whether the patents-in-suit were infringed.

Although both parties offered a proposed construction of “mounted to” in their briefs, Ravin admitted at the *Markman* hearing that it did not believe that “mounted to” required construction. Instead, Ravin represented that it had adopted its proposed construction in response to TenPoint’s proposed construction allowing for “indirect” connections. Acknowledging that its definition of “mounted to” was circular, Ravin explained that a person of ordinary skill in the art (“POSA”) would be able to understand “mounted to” according to its plain and ordinary meaning.

The Court determines whether or not a term requires construction. *U.S. Surgical*, 103 F.3d at 1568. In doing so, the Court considers whether the parties present a “fundamental dispute regarding the scope of the claim term.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). In some instances, the Court may rely on the “plain and ordinary meaning” of a term. *Id.* at 1361. Such cases arise where the term is “used in common parlance and has no special meaning in the art.” *See Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015); *see also Wayne-Dalton Corp. v. Amarr Co.*, No. 5:06-cv-01768, 2007 WL 2668119, at \*1 (N.D. Ohio Sept. 5, 2007) (“[T]he Court’s primary goal is to ensure that the

language of the claim is intelligible to one ordinarily skilled in the art at the time of the invention—if the language meets this test, it requires no further construction.”).

From its representation at the claim construction hearing, it is apparent that Ravin does not now believe that “mounted to” requires construction. The Court agrees. While some courts have attempted to construct “mounted” or some variation of that term, they have generally done so where other language in the specification indicates a more precise meaning is intended. *See Evenflo Co., Inc. v. Veer Gear LLC*, No. 3:20-cv-030, 2021 WL 3737905, at \*8 (S.D. Ohio Aug. 24, 2021) (defining “mount(ed, able) to” as “securely affix(ed, able) or attach(ed, able) to” where the patent disclosed multiple types of mounted configurations that required differentiation); *Weatherford Tech. Holdings, LLC v. Tesco Corp.*, No. 2:17-cv-456, 2018 WL 3239714, at \*13 (E.D. Tex. July 3, 2018) (defining “operatively mounted” as “attached to operate” but declining to specify the degree of connection required). Still, other courts have found that the term “mounted” does not require additional construction. *Kimberly-Clark Corp. v. Extrusion Grp., LLC*, No. 1:18-cv-04754, 2021 WL 302889, at \*5 (N.D. Ga. Jan. 29, 2021) (citing *02 Micro*, 521 F.3d at 1362) (“Replacing the term ‘mounted to’ with the longer phrase ‘physically attached to,’ moreover, would amount to an ‘exercise in redundancy.’”); *HVAC Tech. LLC v. Southland Indus.*, No. 5:15-cv-02934, 2016 WL 3092182, at \*5 (N.D. Cal. June 2, 2016) (declining to construct multiple forms of “mounted” where nothing in the specification required a more precise definition); *Ascion, LLC v. Ruoeey Lung Enter. Corp.*, No. CIV. A. 09-10293, 2010 WL 4183834, at \*3 (D. Mass. Oct. 25, 2010) (“The plain meaning of the terms ‘mounted on’ and ‘mounted between’ is sufficient to understand what is claimed.”). Nothing in this case compels a different result.

“Mounted to” is a term readily understood by a person skilled in the art. As such, the Court finds that “mounted to” should be given its plain and ordinary meaning.

### C. “First ends”

The parties next disagree about the construction of “first ends” and particularly about the exact length of the “first end” of the power cables. Ravin would construct “first end” as “a length (e.g., portion) of the power cable extending from a point at which the power cable terminates.” (Doc. No. 126-1, at 4.) TenPoint proposes “a terminal portion of the power cable.” *Id.* The Court adopts Ravin’s construction of “first ends” as it better captures the meaning of the term as described in the patent.

The term “first ends” appears in claims 1 and 11 of Patent ‘073 and claim 10 of Patent ‘728. (*Id.*) The relevant portion of the ‘073 patent describe “first ends” as “a pair of first power cables having first ends received in the first upper and lower power cable journals and second ends attached to static attachment points on the crossbow[.]” (Doc. No. 1-5 (Patent ‘073), at 21:43–46.<sup>2</sup>) The relevant portion of the ‘728 patent reads: “a pair of first power cables having first ends received in the first upper and lower helical power cable journals and second ends attached to first upper and lower attachment point[.]” (Doc. No. 1-8 (Patent ‘728), at 21:35–38.<sup>3</sup>)

First, the language of the claim teaches that the “first ends” of the power cable must be of sufficient length to be “received” in the power cable journals. (Patent ‘073 at 21:43–46.). But the claim does not specify how much of the cable must be “received” in the journal. (*See id.*) The

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<sup>2</sup> For citations to a patent, the Court shall depart from its usual citation method and, instead, reference the abbreviated patent number and the original patent pagination.

<sup>3</sup> Because the relevant portions of Patents ‘073 and ‘728 are identical, the Court will base its construction on Patent ‘073 unless otherwise noted.

Court thus proceeds to consider the specification. A patent’s specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics*, 90 F.3d at 1582.

Here, the specification provides that the “[f]irst power cable 168A is secured to the first string guide 158A at first attachment point 170A and engages with a power cable take-up with a helical journal . . . . The other end of the first power cable 168A is secured to the axle 160B.” (Patent ‘073 at 7:37–43.) This portion of specification describes two ends: the “other end” attached to the center rail, and an end that “is secured to the second string guide 158A at first attachment point” and “engages with a power cable take-up with a helical journal.” (*Id.* at 7:44–46.) While this portion of the specification does not explicitly use the term “first ends,” it does refer to the “other end” which is attached to the crossbow. (*Id.* at 7:42–43.)

Read most naturally, the use of “other end” presupposes another end, or, as it is termed in the claim, a “first end.” According to the specification, the “first end” must be of sufficient length to both “engage[] with a power cable take-up” journal and attach to the “first attachment point” on the journal. (*Id.* at 7:37–43.) The attachment point, or anchor, is situated beyond the power cable journal. (*See id.* at Fig. 10.) In order to both “engage[] with a power cable take-up” and secure to the anchor, the “first end” would have to include a length of the power cable at least equal to the length between the anchor and the journal. It could not be a “terminal portion” or point.

That the “second ends” of the power cable are sometimes described as static points says nothing about the construction of “first ends” as it appears elsewhere in the patents. Claim 1 teaches that the second ends terminate at a static “point[]” on the crossbow. (Patent ‘073 at 21:39–42.) No such language exists to describe the first ends. (*See id.*) ““A claim construction that gives

meaning to all the terms of the claim is preferred over one that does not do so.” *See SimpleAir, Inc. v. Sony Ericsson Mobile Commc’ns AB*, 820 F.3d 419, 429 (Fed. Cir. 2016) (citing *Merck & Co. v. Teva Pharm. USA, Inc.*, 393 F.3d 1364, 1372 (Fed. Cir. 2005)). Requiring “first ends” to refer to the same portion of cable as “second ends” would impose identical meanings on terms that are purposefully differentiated in both the claim language and the specification. Such a construction is inconsistent with the language of the claims. Similarly, the fact that, in some images, the “second ends” appear to identify just the terminal portions of the power cable says nothing about the “first ends” or how they are defined. (*See* Fig. 12.) This is because “[i]t is the claims, not the written description that define the patent scope, so a claim is not limited to inventions that look like the drawings[.]” *Skedco, Inc. v. Strategic Operations, Inc.*, 685 F. App’x 956, 960 (Fed. Cir. 2017) (citation omitted).

TenPoint argues that “first ends” must refer to a discrete point of the cable because claim 15 of the ‘728 patent describes “a [] vertical distance” separating the first ends of the power cables. (Patent ‘728 at 23:62–67.) To TenPoint, describing this distance with the singular “a” indicates that “first ends” cannot refer a length of cable but must instead refer to a discrete point. (*See* Doc. No. 117, at 19.) But “a” can also refer to multiple objects (*e.g.*, distances) when indicated by the language of the claim. *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008) (“That ‘a’ or ‘an’ can mean ‘one or more’ is best described as a rule, rather than merely as a presumption.”). It is sometimes inappropriate to read “a” in the plural sense when doing so cuts against the plain language of the claim itself. *Harari v. Lee*, 656 F.3d 1331, 1341 (Fed. Cir. 2011). This is because “we read the limitation in light of the claim and specification to determine its meaning.” *Id.* Here, however, both the claim language and the specification support constructing

“first ends” to include a longer portion of the cable sufficient to “engage[]” with the power cable journals.

The term “first ends” is described in both the claim and the specifications as being of sufficient length to “engage[]” with the power cable journals. Engagement with journals requires a length of the power cable long enough to extend from the journal at the center of the cam to the anchor at the distal end of the cam. If the “first end” included only the terminal portion of the power cables, it could perhaps attach to the anchor, but it could not also engage with the power cable journals. The specification therefore requires more than just a “terminal portion” of the power cables. Accordingly, the Court constructs the term “first ends” as “a length (e.g. a portion) of the power cable extending from a point at which the power cable terminates.”

#### **D. “Extending away from”**

The term “extending away from” is the last term that the parties agree requires construction. The term appears in claim 11 of Patent ‘379 and claim 11 of Patent ‘936.<sup>4</sup> It reads “first and second flexible limbs attached to, and extending away from, a [center rail/riser].<sup>5</sup>” (Patent ‘379 at 17:37–38; Patent ‘936 at 19:2–3.) Ravin proposes to construct the term “extending away from” as “at least a portion of a first member extending in a direction that diverges from a second member.” (Doc. No. 126-1, at 3.) TenPoint includes more of the claim. It constructs “flexible limbs attached

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<sup>4</sup> Ravin alleges infringement of claims 12 and 14 through 18 of the patents. (Doc. No. 107, at 1.) Ravin does not allege infringement of claim 11 of either patent. (*See id.*) Claims 12 and 14 through 18 are dependent claims, describing the “crossbow of claim 11” with various additional modifications. (Doc. No. 1-3 (Patent ‘379), at 17:64–18:32; (Doc. No. 1-4 (Patent ‘936), at 19:30–20:13.) Because the description of claim 11 is incorporated into claims 12–18, the Court analyzes claim 11 to determine the construction of “extending away from” as it is incorporated in claims 12 through 18.

<sup>5</sup> Patent ‘379 and ‘936 use nearly identical language. The only difference in the language used is that Patent ‘379 describes the limbs as attached to a center rail (Patent ‘379 at 17:37–38), while Patent ‘936 describes the limbs as attached to a riser. (Patent ‘936 at 19:2–3.) In the interest of concision, this opinion will refer to the center rail unless otherwise noted.

to, and extending away from, a [center rail/riser]” as “first and second limbs having first ends secured directly or indirectly to the center rail [or riser, as appropriate] and having second ends pointing away from the center rail [or riser, as appropriate].” (*Id.*)

At the outset, neither party’s proposed construction accurately reflects the meaning of “extending away from” as it would be understood by a person ordinarily skilled in the art. First, the Court does not agree with TenPoint’s construction, which would require the bow limbs to “point” away from the center rail. (Doc. No. 126-1, at 3.) Such a construction suggests that the limbs must flare out awkwardly, or otherwise run perpendicular to the center rail. (*See* Doc. No. 108, at 20.) But it is possible to imagine limbs that extend away from a center rail without pointing directly away from the center rail. For example, the limbs could point downrange or uprange in a manner running roughly parallel to the center rail. (*See* Patent ‘379 at Fig. 12; *see also* Patent ‘936 at Fig. 12.) They could also extend away from the center rail before curving inward. *See Black & Decker Corp. v. Positec USA Inc.*, No. 11-cv-5426, 2013 WL 4839629, at \*17 (N.D. Ill. Sept. 10, 2013) (“[A] curve can also extend away from another component.”) In short, there are numerous possible configurations in which the bow limbs could be said to extend away from the center rail without also having ends that point away from the center rail. Some of these configurations are found in the embodiments of the patent. (Patent ‘379 at Fig. 12; Patent ‘936 at Fig. 12.) There are no embodiments depicting limbs with ends pointing away from the center rail.

Ravin’s construction, on the other hand, provides only that some “portion” of the bow limb “diverges” from the center rail. (Doc. No. 126-1, at 3.) This construction merely substitutes a preferred synonym for the claim term. *See O2 Micro*, 521 F.3d at 1362. Here, substituting Ravin’s preferred language does not clarify the scope of the claim, and would not assist a jury in

determining the meaning of the term as understood by a person ordinarily skilled in the art. *See Terves*, 2021 WL 1172332, at \*4. Accordingly, Ravin’s construction also fails.

Courts have frequently used terms such as “extending from” or “extends away from” in crafting their own constructions. *See, e.g., Columbia Ins. Co. v. Simpson Strong-Tie Co. Inc.*, No. 2021-2145, 2023 WL 2733427, at \*6–7 (Fed. Cir. Mar. 31, 2023) (affirming the lower court’s construction using the term “extending from” without further construction); *Softspikes LLC v. MacNeill Eng’g Co., Inc.*, No. Civ A. 08-469, 2010 WL 11031657, at \*2 (D. Del. Apr. 29, 2010) (constructing “said arm extends away from...” as “the arm is attached to the hub and extends away from the hub so that it is not in contact with the shoe sole when in the relaxed configuration.”) This is because the term “extending away from” and those like it could be readily understood by a person skilled in the art. *O2 Micro*, 521 F.3d at 1362. There is no need to construct a term that is already readily understandable using synonyms that could lead to confusion. *See Terves*, 2021 WL 1172332, at \*4. The term “extending away from” does not require construction.

TenPoint maintains that “extending away from” does not meaningfully differentiate claim 1 from claim 11 absent further construction, violating the principle of claim differentiation. (Doc. No. 117, at 21.) Claim 1 refers to “first and second flexible limbs attached to a center rail” or riser. (Patent ‘379 at 16:28; Patent ‘936 at 17:61.) Claim 11, however, describes “first and second limbs attached to, and extending away from, a center rail” or riser. (Patent ‘379 at 17:37–38; Patent ‘936 at 19:2–3.) “[D]ifferent words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope[.]” *Karlin Tech. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 972 (Fed. Cir. 1999). A bow limb must always diverge from the center rail in some manner in order to bend and generate power necessary to fire an arrow downrange. (Doc. No. 117, at 21.)

Thus, TenPoint argues, to say limbs “extend[] away from” the center rail is merely to note a characteristic inherent in all bows, including the bow described in claim 1. (*Id.*) Such a construction, in TenPoint’s view, would fail to give different meanings to claims 1 and 11. (*Id.*)

Any concern that the Court’s construction of “extending away from” fails to differentiate between claims 1 and 11 is rectified by adopting the remainder of TenPoint’s proposed construction, namely the portion explaining that the “first ends” of the limbs are attached to the center rail while the “second ends” of the limbs extend away from the center rail. (*See* Doc. No 126-1, at 3–4.) This construction clarifies that it is not just any portion of the limb that extends from the center rail, as would be inherent in any bow design, but specifically that the “second ends” of the limb must extend away from the center rail. Such a construction better comports with the language of the claim, and it also accounts for the various embodiments disclosed by the patents. For example, Figure 12 discloses a crossbow with limbs attached to the uprange end of the center rail and extending downrange. (Patent ‘379 Fig. 12; Patent ‘936 Fig. 12.) The “second ends” of the limbs extend away from the center rail. Figure 12 is described as having limbs that “extend from opposite sides of the center portion” of the bow. (Patent ‘379 at 7:27–29; Patent ‘936 at 8:60–62.) Thus, a construction of claim 11 that requires the second ends of the limbs to extend away from the center rail would include Figure 12 in its scope, and it would meaningfully differentiate the bow it describes from other embodiments.

Ravin counters that constructing claim 11 to require ends that extend away from the center rail would exclude Figure 13 from the claim’s scope.<sup>6</sup> (*See* Doc. No 108, at 20.) But every claim

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<sup>6</sup> Figure 13 depicts a bow with each limb extending from the front of the crossbow uprange. (Patent ‘379 at Fig. 13; Patent ‘936 at Fig. 13.) The specification explains that the limbs “have a generally concave shape directed toward the

need not include every figure. *See Intamin, Ltd. v. Magnetar Techs.*, 483 F.3d 1328, 1336–37 (Fed. Cir. 2007) (explaining that a claim need not cover every embodiment where the patentee has drafted different claims to cover different embodiments); *see also Baran v. Medical Device Techs.*, 616 F.3d 1309, 1316 (Fed. Cir. 2010). Here, the broader language used in claim 1, which requires only that limbs are “attached to the center rail[,]” could encompass a crossbow like that described in Figure 13. (*See* Patent ‘379 at 16:28; Patent ‘936 at 17:61.) Thus, while a construction that requires the ends of the limbs to extend away from the center rail may exclude Figure 13 from the scope of claim 11, it does not entirely exclude a disclosed embodiment.

Finally, Ravin ascribes the difference between Figures 12 and 13 to the fact that Figure 12 depicts a crossbow in its released state, where the limbs are relaxed, while Figure 13 depicts the drawn state, with its limbs bent towards the center rail. (Doc. No. 120 (Plaintiff’s Reply), at 9.) Claim 11 must contemplate both the released and the drawn state, Ravin contends, because doing so is required by the language of claim 12. (*Id.*) Claim 12 is a dependent claim incorporating the crossbow as described in claim 11. It discloses the crossbow of claim 11 as it “is drawn from the released configuration to the drawn configuration[.]” (Patent ‘379 at 17:64–18:5; Patent ‘936 at 19:30–35.) Therefore, Ravin concludes, any construction of the term “extending away from” in claim 11 must also describe the crossbow as it would appear in its drawn configuration. (Doc. No. 120, at 9.)

This argument amounts to reading a limitation from the dependent claim 12 into the independent claim 11. The principle of claim differentiation instructs that “an independent claim

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center rail” and that the limbs “extend[] rearward toward the proximal end” of the crossbow. (Patent ‘379 at 8:9–13; Patent ‘936 at 9:42–46.)

should not be construed as requiring a limitation added by a dependent claim.” *Curtiss-Wright*, 438 F.3d at 1380 (citing *Nazomi Commc ’ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1370 (Fed. Cir. 2005)). Claim 11 says nothing about the drawn or released configuration of the bow. (See Patent ‘379 at 17:36–63; *see also* Patent ‘936 at 19:1–29.) Reading claim 12 to require a limitation not found in claim 11 works the principles of claim construction backwards and is not supported by the plain language of the claim.

While nothing in claim 11 requires the reader to consider the bow in both its drawn and released position, it is nonetheless correct to note that the bow limbs only extend away from the center rail when the bow is in its released position. (See Patent ‘379 at Fig. 13; Patent ‘936 at Fig. 13.) When the bow is drawn, the second ends of the limbs will pull inwards, curving towards the center rail. (Doc. No. 108, at 19.) Accordingly, the most accurate construction of claim 11, and the one that best reflects how a person ordinarily skilled in the art would understand the claim, is one that observes the difference between the bow in its drawn and released positions.

Accordingly, the Court constructs the term “flexible limbs attached to, and extending away from, the [center rail/riser]” as “first and second limbs having first ends secured, either directly or indirectly, to the center [rail/riser] and, when in the released position, second ends extending away from the [center rail/riser].” This construction accurately captures the difference in the drawn and released position, the orientation of the limbs and the center rail or riser, and the manner in which the limbs are attached to the center rail, as these components would be understood by a person ordinarily skilled in the art.

### E. “About”

TenPoint proposes a construction of the term “about.” (Doc. No. 126-1, at 20.) The term is found in patents ‘379 (claims 4, 5, 6, 9, 16, 17, and 18), ‘936 (claims 4, 5, 6, 9, 16, 17, and 18), ‘073 (claims 1, 5, 11, and 24), and ‘728 (claim 12). TenPoint’s construction is “a rated or nominal value, allowing for manufacturing tolerances.” (*Id.* at 20.) TenPoint goes on to specify that the appropriate “manufacturing tolerance” is dependent on how the value is written. (*Id.* at 20–21.) “Where a value is written without a decimal (e.g., ‘360 degrees’), the tolerance is no more than 0.1 of the unit. Where a value is written with one value to the right of a decimal (e.g. ‘3.0 inches’), the tolerance is no more than 0.01 of the unit.” (*Id.*)

Ravin argues that “about” should be given its plain and ordinary meaning. (*Id.* at 20.)

But “about” is described in more precise terms elsewhere in the patent. The relevant portion of the specification states:

Where a range of values is provided, it is understood that each intervening value, to the tenth of the unit of the lower limit unless the context clearly dictates otherwise, between the upper and lower limit of that range and any other stated or intervening value in that stated range is encompassed within this disclosure. The upper and lower limits of these smaller ranges which may independently be included in the smaller ranges is also encompassed within the disclosure, subject to any specifically excluded limit in the stated range. Where the stated range includes one or both of the limits, ranges excluding either both of those included limits are also included in the disclosure.

(Patent ‘379 at 15:25–37.) Thus, the language of the specification indicates that a value of “about” 1–3 inches (the “range”) would include .9–3.1 inches. A value of “about” 1.0–3.0 inches (the “smaller range”) would include .99–3.01 inches, unless otherwise specified. This reading comports with TenPoint’s construction, which would limit “about” to one-tenth of the lowest significant digit. (Doc. No. 117, at 40.) Ravin has not offered any evidence to counter this construction, and nothing in either the claims themselves or the specifications contradicts this reading.

A “[POSA] is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. Reading “about” in light of this language does not import a limitation from the specification. Rather, “[t]he line between construing terms and importing limitations can be discerned with reasonable certainty and predictability if the court’s focus remains on understanding how a person of ordinary skill in the art would understand the claim terms.” *Phillips*, 415 F.3d at 1323. Here, the most natural reading of the specification is that the term “about” has some limits, and those that limits can be found in the specification.

The Court therefore constructs “about” to mean “a rated or nominal value, allowing for manufacturing tolerances of no more than .1 of the relevant unit where it is written without a decimal, and .01 of the relevant unit where it is written with a decimal.”

#### **F. Remaining Terms and Phrases**

The parties disagree about the construction of seventeen remaining claims.<sup>7</sup> TenPoint has offered a proposed construction of each of the remaining claims. Ravin argues that no construction is necessary for each. The remaining terms are as follows:

1. “crossbow”
2. “bow”
3. “first and second flexible limbs attached to [a central rail/a riser]”
4. “a [first/second] [string guide/cam] mounted to the [first/second] [bow/flexible] limb and rotatable around a [first/second] axis”

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<sup>7</sup> The remaining claim terms are terms 9–12, 14, 16, 17, 21–25, 27, 31, 32, 34, 35, and 39, as identified in the parties’ joint claim construction statement. (*See generally* Doc. No 126-1.)

5. a [first/second] string guide mounted to the [first/second] flexible limb by a [first/second] axle mount and rotatable around a [first/second] axis located a fixed distance from the [first/second] flexible limb by the [first/second] axle mount”
6. “wherein the first and second cams are mounted to the first and second [flexible/bow] limbs, respectively, with first and second axes of rotation offset from distal tips of the [flexible/bow] limbs by about 1.0 inch to about 3.0 inches”
7. “the first and second axes move continuously toward the center rail as the draw string is moved from the released configuration to the drawn configuration”
8. “a [first/second] helical power cable take-up journal extending in a direction perpendicular to the [first/second] plane of rotation of the [first/second] draw string journal”
9. “a [first/second] upper power cable take-up journal extending in a direction perpendicular to the [first/second] plane of rotation of the [first/second] draw string journal”
10. “a [first/second] lower power cable take-up journal extending in an opposite direction perpendicular to the [first/second] plane of rotation”
11. “[first/second] upper and lower helical power cable journals on opposite sides of the [first/second] draw string journal”/ “[first/second] upper and lower helical power cable journals on opposite sides of the [first/second] draw string journal each comprising a path that is helical to the [first/second] plane of rotation”
12. “[first/second] upper and lower power cable journals on opposite sides of the [first/second] draw string journal each comprising a path that is not [co-planar/in a plane parallel] with the [first/second] plane of rotation”
13. “helical [power cable] journal[s]”
14. “a draw string received in the first and second [string guide/draw string] journals in a reverse draw configuration with the draw string adjacent a down-range side when in a released configuration, wherein the draw string unwinds from the first and second string guide journals as it translates from the released configuration to a drawn configuration”
15. “a draw string received in the [first and second] draw string journals [and secured to the first and second cams], wherein the draw string unwinds from the [first and second] draw string journals as [it/the draw string] translates [from/between] a released configuration to a drawn configuration”
16. “a pair of [first/second] power cables having first ends received in the [first/second] upper and lower [helical] power cable journals and second ends attached to static attachment points on the crossbow”

17. “a pair of [first/second] power cables having first ends received in the [first/second] upper and lower power cable journals and second ends attached to [first/second] upper and lower attachment points on a [first/second] side of the center rail”

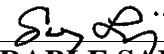
Not every term in a patent need be construed by the Court. *U.S. Surgical*, 103 F.3d at 1568. In fact, there is a “heavy presumption” that terms carry their ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). As explained above, a term does not require construction where the plain and ordinary meaning of the term is readily understood by a POSA. *O2 Micro*, 521 F.3d at 1362. “Claim construction ‘is not an obligatory exercise in redundancy.’” *Id.* (quoting *Ethicon*, 103 F.3d at 1568). Constructing the remaining terms proposed by TenPoint would be more than an exercise; it would be a marathon of redundancy.

TenPoint’s proposed constructions of these remaining claims are largely substitutions of synonyms. (*See* Doc. No. 126-1, at 6–21.) For example, TenPoint constructs the term “the first and second axes move continuously toward the center rail as the draw string is moved from the released configuration to the drawn configuration” to mean “as the crossbow is cocked or drawn, the distance between the center rail and the first and second axes continuously decreases.” (*Id.* at 13.) This type of change in wording does nothing to assist the jury in deciding whether the claim has been infringed. *See Terves*, 2021 WL 1172332, at \*4. Even where they provide some clarification, TenPoint’s proposed constructions are often at odds with the agreed-upon constructions, or insert information not found in the claims themselves. In term 21, TenPoint’s construction replaces “power cable take-up journal” with “groove or path, for receiving a power cable[.]” (Doc. No. 126-1, at 14.) This is despite the fact that the parties submitted a different agreed construction for “power cable take-up journal” in their joint claim construction statement. (Doc. No. 126, at 2.) In

another instance, TenPoint's constructions add a "post" attached to the center rail of the crossbow that is not found anywhere in the patents. (Doc. No. 126-1, at 20.) The Court finds that these proposed constructions do not present a fundamental dispute about the scope of the patent, are unnecessary, and would not aid the jury. These remaining disputed claim terms require no construction and will be given their plain and ordinary meaning.

**IT IS SO ORDERED.**

Dated: March 1, 2024

  
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**HONORABLE SARA LIOI**  
**CHIEF JUDGE**  
**UNITED STATES DISTRICT COURT**